

**WISCONSIN ENDANGERED RESOURCES REPORT #124
STATUS OF THE AMERICAN MARTEN IN WISCONSIN
PERFORMANCE REPORT, 1 JULY 2000 THROUGH 30 JUNE 2001
By Adrian P. Wydeven, James E. Ashbrenner, & Jane E. Wiedenhoef**

SUMMARY

A total of 38 American marten were detected along 209.3 miles of snow tracking survey routes. Marten tracks detected included 20 along 79.1 miles in the Nicolet National Forest in northeastern Wisconsin and 18 along 94.4 miles of the Chequamegon National Forest in northwest Wisconsin. Rate of observations for marten was 25.3/100 miles in the Nicolet, and 19.1/100 miles in the Chequamegon National Forest. Field biologists and wildlife technicians across northern Wisconsin were asked to assess current marten range, and the map generated from this effort showed marten core areas to continue to exist near release sites in northwest and northeast Wisconsin. Most of the American marten population has not expanded extensively from original release sites. The Wisconsin marten committee met in September 2000, and May 2001 to examine marten status and plan future management.

**BUREAU OF ENDANGERED RESOURCES
Wisconsin Department of Natural Resources
P.O. Box 7921
Madison, WI 53707
August 28, 2000**

**Wisconsin Department of Natural Resources
Box 7921
Madison, WI 53707**

**STATUS OF THE AMERICAN MARTEN
PERFORMANCE REPORT**

July 1, 2000 - June 31, 2001.

Prepared by: Adrian P. Wydeven, James E. Ashbrenner, and Jane E. Wiedenhoeft

- Job: 106.2.1 Monitor Population
 106.2.2 Determine recovery levels
 106.2.3 Enhance population
 106.2.4 Communications

Background: American marten (*Martes americana*) also known as pine marten, were listed as state endangered in 1972. Between 1975-1983, 172 marten were released in the northern portions of the Nicolet National Forest in northeast Wisconsin, and between 1987-1990, 139 marten were reintroduced into the Clam Lake area of the Chequamegon National Forest in northwest Wisconsin. Marten were released into Fisher Management Units (FMU) where terrestrial trapping for furbearers has been closed since fisher (*Martes pennanti*) were reintroduced in the 1950's and the 1960's. These FMU areas continue to serve as refuges for marten restoration, and include 188 mi² in the Nicolet and 344 mi² in the Chequamegon National Forest. Standardized routes for snow track surveys to assess abundance and distribution of marten were established in 1987 in the Nicolet National Forest, and 1991 in the Chequamegon National Forest (Ashbrenner 1994). Periodically, DNR and Forest Service biologists are asked to determine marten distribution in their areas, and such information is used for developing a map of statewide distribution. A Wisconsin marten committee was formed in March 2000, and they continue to meet to assess status and refine management of American marten in the state.

A recovery plan was developed for American marten in Wisconsin in 1986. The 4 jobs listed above were the main strategies for recovering marten to Wisconsin, and these form the outline for this report.

JOB 106.2.1 MONITOR POPULATION

Three routes of about 25-30 miles each were established in FMU's in both forests, and 2 additional routes were established outside the FMU in the Nicolet to be run every 3 years. Additionally, in winter 2000-2001 exploratory surveys were run in other portions of the Nicolet National Forest. Routes were followed slowly with four-wheel drive vehicles after a fresh snowfall (Ashbrenner 1994). Tracks of individual marten, other carnivores, and porcupines were recorded along each route.

Requests were made in early winter for WDNR and US Forest Service biologists to map American marten occurrence in their areas, and this information was used to map statewide distribution.

Results and Discussion

The Nicolet marten surveys were run in February and March, with total snow depths of 16 to 22 inches (Table 1). Twenty marten were detected along 79.1 miles of survey along routes 1-3, but 60% of the marten were detected along 21.3 miles surveyed on 9 March 2001. The overall rate for these 3 routes was 25.3 marten/100 miles; this was 2 times the rate in 2000 (12.4 marten/100 miles), but similar to 1999 (23.9 marten/100 miles). No marten were detected on routes 4 and 5 outside the FMU.

Chequamegon marten surveys were run in January, March and early April when snow cover was 18 inches or more (Table 2). Eighteen marten were detected along 94.4 miles of survey, but 61% were detected on a 25.8 mile survey in early April (Table 2). The marten observation rate for 2001 was 19.1 marten/100 miles, and was similar to 2000 (20.6 marten/100 miles). It appears that track surveys late in winter pick up more observations of marten, and may somewhat inflate abundance of marten compared to mid-winter surveys. In late winter, snow is hard and easier for martens to traverse, whereas in mid-winter snows are softer and probably reduce marten mobility.

The ratio of marten to fisher was 1 marten to 3.1 fisher in the Chequamegon and 1 marten to 2.8 fisher in the Nicolet. Generally the ratio in the Chequamegon has been more than 3 fisher per marten, but the Nicolet usually is less than 3 fisher per marten. Fisher are apparently considerably more abundant than marten in both locations.

Other carnivore tracks observed included coyote, fox, wolf, dog, raccoon, mink, otter and badger. Coyote appear to be more abundant in the Nicolet, while wolves and foxes seem to be more abundant in the Chequamegon.

Additional marten surveys were conducted on and adjacent to the Nicolet National Forest in February and March 2001 (Table 3). Eleven or twelve additional marten were detected along 129.8 miles of survey. Marten seemed to occur mainly in portions of the Nicolet north of Highway 8 and areas adjacent to the National Forest east of Monico.

Information requested from field biologists was used to develop an updated map of American marten distribution in Wisconsin (Figure 3). The map illustrates 2 main core areas in northeast and northwest Wisconsin, and a possible third core area in the Menominee Indian reservation. Marten continue to occur at moderate to high densities mainly near the original stocking sites in northern Forest and western Ashland Counties, but some have started spreading into adjacent areas. Both populations on the national forests apparently also extend into Michigan. Some marten also seem to be spreading into northwest Wisconsin from Minnesota. It may be of interest to conduct more intense studies on the Menominee Indian Reservation to determine more about the status of that population.

JOB 106.2.2 DETERMINE RECOVERY LEVELS

The Wisconsin Marten Committee met 26 September 2000, and 22 May 2001 to examine status, review research, and plan future surveys, research, and management. The 12 committee members include WDNR, U.S. Forest Service, and the Great Lakes Indian Fish and Wildlife Commission (GLIFWC). The committee agreed that current survey activities should continue, and began work on GIS analysis of marten habitat and distribution. Work is being done by GLIFWC on home range, habitat use, and interactions with other predators in the Chequamegon National Forest near Clam Lake.

JOB 106.2.3 ENHANCE POPULATION

Work done by the marten committee will determine if additional sites exist within Wisconsin where marten should be restocked. Further analysis of distribution data, population status, and habitat preference will be conducted to determine if additional stockings are needed and would be feasible.

JOB 106.2.4 COMMUNICATION

American marten surveys were published in the Wisconsin Wildlife Surveys (Wydeven et al. 2001), and marten observations were reported in Wisconsin Wildlife Surveys under Rare Mammal Observations (Wydeven and Wiedenhoef 2001). Discussions of marten were presented to volunteer carnivore trackers at workshops in Wascott (4 November 2000, 24 people), Tomahawk (3 December 2000, 54 people), and Babcock (10 December 2000, 40 people). Marten information was also presented at a Conference on Carnivore Ecology in Denver Colorado, on 15 November 2000 to about 100 people.

Acknowledgment

Persons assisting on the marten surveys included Sarah Boles, Pat Coffen, Larry Willems, and D. Jackson. Federal PR Funds and the Endangered Species Check-off provided funding.

Literature Cited

- Ashbrenner, J.E. 1994. Distribution of marten in the Nicolet National Forest, 1994. *Wisconsin Wildlife Surveys*. 4(1):96-102.
- Wisconsin DNR. 1986. Pine marten recovery plan. *Wisconsin Endangered Resources Report* No.22, Madison, WI. 25pp + addendum.
- Wydeven, A.P., and J.E. Wiedenhoef. 2001. Rare mammal observations 2000. *Wisconsin Wildlife Surveys*. 11(2): 46-51.
- Wydeven, A.P. , J.E. Wiedenhoef, and J. E. Ashbrenner. 2001. American marten surveys in northern Wisconsin. *Wisconsin Wildlife Surveys*. In Press.

Table 1. *Furbearer track observations along marten survey routes in northern portions of the Nicolet National Forest, winter 2000-2001.*

Date	Route No.	Snow Depth (in)	Miles Run	Number of Tracks Observed				
				Marten	Fisher	Coyote	Bobcat	Other
2/2/01	1	16"	29.2	4	15	21	1	3 Porcupine 3 Fox
3/9/01	2	18" (2")	21.3	12	16	7	5	0 fox
2/23/01	3	19"	28.6	4	15	11	1	3 fox 1 otter
2/13/01	4	22"	22.2	0	8	13	6	1 fox 2 porcupine
2/13/01	5	22"	13.6	0	3	5	2	2 porcupine 3 raccoon
Totals				20	57	57	15	1 otter 7 fox 3 raccoon 7 porcupine
Rate per 100 mi (1-3)			(79.1)	25.3	58.2	49.3	8.8	1.3 otter 7.6 fox 3.8 porcupine
1999- 2000			(80.9)	12.4	23.5	32.1	2.5	4.9 otter 1.2 dog 3.7 fox 3.7 porcupine
1998- 1999			(79.4)	23.9	27.7	27.7	5.0	6.3 otter 3.8 fox
1997- 1998			(84.1)	11.9	26.2	41.6	2.4	3.6 otter 2.4 fox 3.6 porcupine
1996- 1997			(76.2)	13.8	37.9	36.8	5.7	2.3 otter 4.6 fox 2.3 porcupine

Table 2. *Furbearer track observations along marten survey routes near Clam Lake in the Chequamegon National Forest, winter 2000-2001.*

Date	Route No.	Snow Depth (in)	Miles Run	Number of Tracks Observed				
				Marten	Fisher	Coyote	Bobcat	Other
3/11/01	1	1.5"(fresh)	21.7	1	19	1	1	1 Badger 4 Fox
4/03/01	2	18-20"	25.8	11	18	1	4	6 mink 3 fox 5 wolves 5 otter 1 porcupine
1/04/01	3	0.5"(fresh)	23.5	3	4	6	1	5 fox 8 wolves 2 otter
3/9/01	3	2.5"(fresh)	23.4	3	15	3	0	6 fox 7 wolves 1 otter
Totals			94.4	18	56	11	6	6 mink 1 badger 8 otter 18 fox 20 wolf 1 porcupine
Rate per 100 miles			1 & 3 only	19.1 (10.2)	59.6	11.7	6.4	6.4 mink 1.1 badger 8.5 otter 19.1 fox 21.3 wolf 1.1 porcupine
1999-2000			58.3	20.6	70.3	41.2	12.0	3.4 mink 18.9 otter 5.1 dog 22.3 fox 8.6 wolf 3.4 porcupine
1998-1999	None							
1997-1998			72.6	9.7	41.4	17.2	1.4	2.8 dog 30.4 fox 9.7 wolf 1.4 porcupine
1996-1997			76.2	17.1	56.4	10.5	2.6	1.4 otter 23.2 fox 7.1 wolf 2.8 porcupine

Table 3. Additional marten surveys in the Nicolet National Forest, winter 2000-2001.

Location	Date	Snow Depth (in)	Miles Run	Number of Tracks Observed				
				Marten	Fisher	Coyote	Bobcat	Other
Conover/NE Vilas Co.	3/1/01	26"	15.1	0	22	7	2	1 Other
NW Florence Co*	3/2/01	?	10.0	2	16	3	1	1 fox 1 otter 2 porcupines
Kentuck Lake-N Forest Co*	3/1/01	23"	4.0	2	3	1	0	—
Monico area, SE Oneida Co	2/23/01	19"	12.1	3	7	1	0	—
#6B; Kentuck Lake Vilas & Forest Co*	3/1/01	27"	15.0	3	25	4	0	—
#7; Alvin area N. Forest Co	2/23/01	20"	9.5	1	4	3	0	2 otter 1 porcupine
#8; W Laona, Forest Co*	2/15/01	17"	15.9	0	16	6	0	3 fox 3 otter
#9; E Laona, Forest Co*	2/15/01	17"	19.2	0	20	19	1	2 porcupine
#10; Peshtigo River, Forest Co*	2/7/01	13"	29.0	1 ?	22	16	2	1 fox 2 raccoon 1 porcupine

*>1 night
since snow